# INVESTMENT PROSPECTS OF RUSSIAN ARCTIC SHELF DEVELOPMENT UNDER THE ECONOMIC TURBULENCE

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Petroleum industry is one of the leading fields of Russian national economy. The projects aimed at the development of Arctic continental shelf are currently being intensively invested. This area is of particular interest since conventional hydrocarbon reserves are being depleted in traditional world's centers of oil-gas recovery. On the one hand, this is due to the fact that the proportion of oil reserves and oilfields which are difficult to produce and develop is constantly increasing. On the other hand, the interest which the Arctic arises in the world community causes interaction of Arctic and non-Arctic states, which brings about increasing competition for the right to develop and operate Arctic resources and transit marine routes.

The Arctic zone of the Russian Federation (AZRF) comprises 8 federal subjects (Arctic regions), which constitute a peculiar economic macroregion: Murmansk Oblast, Nenets, Yamalo-Nenets and Chukotka Autonomous Okrugs, the sections of Arkhangelsk Oblast, Respublic of Komi and Krasnoyarsk Krai. The Arctic regions contribution to Gross Domestic Product is approximately 15%. According to experts' estimates, more than 70 % of oil and over 80% of Russian gas reserves occur in the subsurface of the Arctic owned by Russia, with approximately 70% of recoverable hydrocarbons being located in the western part of the Arctic. About 75% of total resources and 86% of those in the northern seas are concentrated in the Kara, Pechora, Barents Seas, i.e. hydrocarbons are located within the Arctic offshore areas of Russia non-uniformly. The analysis of economic activity in the Russian Arctic has shown that the most essential factor which hinders its effective development is tough conditions for its geological and geographical studies which are caused by severe natural and climatic conditions. This implies strict requirements for infrastructure facilities, equipment and HSE control. Thus, the Arctic development projects are mainly dependent on large investments and highly sensitive to oil prices compared to conventional deposits.

Oil price is currently being exposed to rather high fluctuations. In January-June the oil price changed within the range of 35–50 dollars per barrel. The recovery of conventional oil in the developed deposits is considered to be effective, with oil price being at the present level. However, in this situation Arctic offshore projects, the long-term implementation of which is likely to provide stable production rate in Russia, tend to be at risk. Thus, according to experts' estimates, these projects are profitable when oil prices are 40-90 dollars per barrel (depending on the Arctic region). Furthermore, the current unfavorable political situation can also affect the profitability of Arctic projects. Among major factors (internal and external) which destabilize the political environment in AZRF there are sanctions for delivery of equipment and technologies for difficult oil exploration and production in Russia, including the Arctic shelf (imposed in August-September 2014). The Russian legislation tends to regulate Arctic issues within the framework of a particular branch of economic activity. The international Arctic law has not been developed. These factors bear the risks associated with specific uncertainties and have a negative effect on AZRF investment climate formation rate. High ecological [1], technological, transport, social, operational risks [2, 4] are also typical for AZRF. As far as investment potential is concerned, its structure is non-uniform considering the Arctic regions (table).

***Table***

***Distribution of Arctic regions (Russia) in accordance with investment climate rating in 2015 [3].***

| Federal subject | Investment climate | Investment risk (rank) | Investment potential (rank) |
|---|---|---|---|
| Murmansk Oblast | Reduced potential – High risk | 69 | 42 |
| Arkhangelsk Oblast | Reduced potential – Moderate risk | 60 | 51 |
| Republic of Komi | Reduced potential – Moderate risk | 58 | 55 |
| Nenets Autonomous Okrug | Insignificant potential – Moderate risk | 63 | 85 |
| Yamalo-Nenets Autonomous Okrug | Reduced potential – Moderate risk | 42 | 25 |
| Sakha Republic (Yakutia) | Reduced potential – Moderate risk | 55 | 20 |
| Krasnoyarsk Krai | Average potential - Moderate risk | 43 | 7 |
| Chukotka Autonomous Okrug | Insignificant potential – High risk | 81 | 80 |

The data analysis has shown that the biggest proportion of Arctic regions corresponds to «Reduced potential – Moderate risk» zone; however, based on particular indicators, the difference between the regions is more evident. Chukotka Autonomous Okrug takes the lowest position according to investment attractiveness rating; it pertains to «Insignificant potential – High risk» zone. This range of problems is evidence of a system problem in all Arctic regions of Russia. High natural risks, variations in demand and price behavior in the hydrocarbon market, insufficient technological development of petroleum industry, problems of legal regulation contribute to increasing misbalance in economical development of Arctic regions, which, in its turn, divides them into leading and depressed according to development rate. Thereby, under modern conditions of economic turbulence investment climate of AZRF is characterized by high demand for investments, with high risk associated with uncertainty for foreign investors and high investment potential being observed. The latter requires change in the approach to the development of Arctic fields considering complex technique which takes into account peculiarities of the Arctic. The current volatility and short-term forecasts of oil price dynamics will not sufficiently influence the oil-gas facilities put into operation. However, future projects are substantially dependent on efficiency of Russia's economic structure.

References

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## THE ARCTIC DEVELOPMENT IS NOT ONLY EXTRACTION OF MINERALS

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Russia was one of the first countries in the world which started the development of natural resources in the Arctic region. For over half of the century there has been a realization of mineral resource projects in Murmansk, Norilsk, Timan-Pechora, and Chukotka. Since the 1970's almost every month we have heard news about the Yamal Peninsula, which supplies more than 200 million tons of oil equivalents per year to the world markets.

However, access to the resources of the North requires huge efforts from the government planned for the long term perspective taking into account a wide range of issues - from financial and economic to social ones.

In addition to natural resources, ice and snow of the North still hide a lot of wealth, about which are known to few people. This region remains important for many Northern countries, including Russia. Russia has long been engaged in the study of this region. Russian coast-dwellers and explorers of the middle of the $16^{th}$ century; the great Northern expedition of 1733-1742; Semyon Chelyuskin, Ferdinand Wrangel, Fyodor Matyushkin, Fyodor Litke, Stepan Makarov, and many other Russian researchers and explorers dedicated their entire life to the study of the Northern regions of the Russian land. Later, at the Soviet times, the study continued: the development of the Northern sea route started, the first polar station was established. The 1990's was notable for the reversal development in the Soviet experience. A lot seemed to be unnecessary, a lot was forgotten. Only in the 2000's there was a return of Russia to the Arctic zone.

But not only Russia is interested in expanding its influence in the Arctic. There are a lot of competitors of our country, and the Northern region becomes a new arena of confrontation between Russia and the West. Arctic treasure has become "a fortune cookie" for many hunters. Russia is developing a military infrastructure and Arctic group of forces to protect its territory in the Northern region. Improvement of the armed forces and the establishment of military bases, are regularly reported, but the Russian leadership does not want to make a testing weapon ground in the Arctic region.

The Arctic still hides huge undiscovered reserves of minerals. The Arctic attracts not only geologists, but also researchers of other scientific fields. The challenge faced by our country consists in research work in the Arctic zone. One could also mention the transport issue of the Arctic region. At Soviet times our country had a powerful icebreaker fleet and polar aviation, its Northern sea route was intensively used.

There is a strong believe that everything will be restored. The polar stations will be reconstructed; a great number of polar expeditions will be arranged and equipped. The Russian troops will provide protection for our sphere of influence. Our country should defend its rightful Arctic space. The Arctic is the area presenting a part of Russia's national interests and refusal from it would be regarded as a betrayal. The development and strengthening of Russian position in the Arctic is a priority program of our country.